



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/733,856

12/11/2003

Frederic Hayem

RONI-024/00US

8105

23446

7590

03/27/2006

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER

CASCA, FRED A

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/733,856

Applicant(s)

HAYEM ET AL.

Examiner

Fred A. Casca

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 and 8-19 is/are rejected.
- 7) ☒ Claim(s) 3,6 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4-5, 8-13, 14-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Vaglica et al (US Patent No. 6,125,404).

Referring to claim 1, Neumann discloses a multi-mode wireless communication device (abstract, and paragraph 0004, "dual mode", telephone have been developed, in which the telephone is useable in two networks), comprising a host baseband processor configured to operate in accordance with a first wireless communications protocol of a first wireless communications system (figures 2-8B, paragraphs 0019-0021, "first and second baseband processors", "GSM", "TDMA"), a baseband co-processor configured to operate in accordance with a second wireless communications protocol of a second wireless communications system (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025, "first and second baseband processors", "GSM", "TDMA"); and means for establishing, within said device, timing synchronization between said first and second wireless communications systems on the basis of timing information transferred (figures 2-8B, paragraphs 19-21, 27, 30-31, note that a logic interface unit for voice data during a

Art Unit: 2687

voice call couples the GSM master processor to the TDMA co-processor, hence it is inherent that a timing synchronization exists between the two different networks).

----- Neumann does not specifically disclose timing synchronization between the first and second wireless communications systems on the basis of timing information transferred to said host baseband processor from said baseband co-processor.

Vaglica discloses timing synchronization on the basis of timing information transferred to a second processor from a first processor (Figures 1-4, Abstract, col. 1, lines 11-40, col. 3, lines 1-25, col. 3, line 50 through col. 4, line 65, "Processor 14 receives the bet stream . . . multiplexes . . . the payload . . . provides the control information to processor 16", "timing of events in the communications system", "time synchronization").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the device of Neumann by incorporating the teachings of Vaglica, and providing timing synchronization between the first and second wireless communications systems on the basis of timing information transferred to said host baseband processor from said baseband co-processor, for the purpose of preventing loss of information, preventing confusion at the receivers, and avoiding timing errors.

Referring to claim 2, the combination of Neumann/Vaglica disclose the device of claim 1, and further discloses means for establishing timing synchronization includes means for issuing, from host baseband processor, a timer capture interrupt to the baseband co-processor during a predetermined timer phase of said first wireless communications system (Neumann, paragraphs 27-34, 38-41).

Referring to claim 4 The multi-mode communications device of claim 1 wherein said means for establishing timing synchronization includes means for reading a current value of at least one timer maintained by baseband co-processor consistent with said second wireless communications protocol (figures 2-8B, paragraphs 19-21, 27, 30-31).

Referring to claim 5, the combination of Neumann/Vaglica disclose the device of claim 1, and further disclose host baseband processor further includes a higher-layer processing module and a modem for interfacing with said first wireless communication system, said higher-layer processing module being operatively coupled to said modem and to a baseband interface of said baseband co-processor (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

----- Referring to claim 8, the combination of Neumann/Vaglica disclose the device of claim 1, and further disclose host baseband processor includes a higher-layer processor configured to effect higher-layer processing of information processed by said baseband co-processor (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

----- Referring to claim 9, Neumann discloses a timing synchronization method (Abstract, figures 2-8B, paragraphs 19-21, 27, 30-31, 0038, 0034, 0030, 0025), comprising configuring a host baseband processor of a multi-mode device to operate in accordance with a first wireless communications protocol of a first wireless communications system (figures 2-8B, paragraphs 0019-0021, "first and second baseband processors", "GSM", "TDMA"), configuring a baseband co-processor of a multi-mode device to operate in accordance with a second wireless communications protocol of a second wireless communications system (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025, "first and second baseband processors",

Art Unit: 2687

“GSM”, “TDMA”); establishing, within said device, timing synchronization between said first and second communication systems on the basis of timing information (figures 2-8B, paragraphs 19-21, 27, 30-31, note that a logic interface unit for voice data during a voice call couples the GSM master processor to the TDMA co-processor, hence it is inherent that a timing synchronization exists between the two different networks).

Neumann does not specifically disclose timing synchronization between said first and second communication systems on the basis of timing information **transferred to said host baseband processor from said baseband co-processor.**

Vaglica discloses timing synchronization on the basis of timing information transferred to a second processor from a first processor (Figures 1-4, Abstract, col. 1, lines 11-40, col. 3, lines 1-25, col. 3, line 50 through col. 4, line 65, “Processor 14 receives the bet stream . . . multiplexes . . . the payload . . . provides the control information to processor 16”, “timing of events in the communications system”, “time synchronization”).

----- It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the device of Neumann by incorporating the teachings of Vaglica, and providing timing synchronization between the first and second wireless communications systems on the basis of timing information transferred to said host baseband processor from said baseband co-processor, for the purpose of preventing loss of information, preventing confusion at the receivers, and avoiding timing errors.

Referring to claim 10, the combination of Neumann/Vaglica disclose the method of claim 9, and further disclose establishing includes issuing a timer capture interrupt to said baseband co-processor (Neumann, paragraphs 27-34, 38-41).

Art Unit: 2687

Referring to claim 11, the combination of Neumann/Vaglica disclose the method of claim 10, and further disclose establishing further includes providing at least one timer value pertinent to a timing state of said second wireless communications system to the host baseband processor in response to issuance of said timer capture interrupt (Neumann, paragraphs 27-34, 38-41).

Referring to claim 12, the combination of Neumann/Vaglica disclose the method of claim 9, and further disclose establishing includes reading a current value of at least one timer maintained by said baseband co-processor consistent with said second wireless communications protocol (Neumann, paragraphs 27-34, 38-41).

Referring to claim 14, the combination of Neumann/Vaglica disclose the method of claim 9, and further disclose host baseband processor is further configured to effect higher-layer processing of information processed by said baseband co-processor (figures 2-8B, paragraphs 0019-0021, 0038, 0034, 0030, 0025).

Referring to claim 15, Neumann discloses a method for establishing timing synchronization between a first wireless communication system and a second wireless communication system within a multi-mode communication device (Abstract, figures 2-8B, paragraphs 19-21, 27, 30-34, 0038, 0030, 0025), the method comprising generating a timer capture interrupt during a predetermined timing phase of the first wireless communication system (paragraphs 30-34, "co-processor's watchdog on a non-maskable interrupt"), storing a timer value of at least one timer pertinent to operation of said second wireless communication system, reading said timer value (paragraphs 19-21, 27, 30-34, 0038, 0030, 0025, note that a watchdog compares current time to a predetermined time, which is inherently stored to check values pertinent to operations of the second network);

Art Unit: 2687

and determining a timing relationship between said first and second wireless communication systems based upon said timer value (Abstract, figures 2-8B, paragraphs 19-21, 27, 30-31, 0038, 0034, 0030, 0025, "slave processor watchdog", "GSM master processor . . . clocked at a first", "synchronous interface").

Neumann does not specifically disclose storing a timer value of at least one timer pertinent to operation of said second wireless communication system **in response to said timer capture interrupt**.

Vaglica disclose storing a timer value of **in response to said timer capture interrupt** (col. 5, line 25 through col. 6, line 5, and col. 6, lines 39-55, "INTERRUPTS, that are provided to processor 14, are generated by inner-processor communication unit").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the device of Neumann by incorporating the teachings of Vaglica into that of Neumann, and providing storing a timer value of at least one timer pertinent to operation of said second wireless communication system **in response to said timer capture interrupt**, for the purpose of preventing loss of information, preventing confusion at the receivers, and avoiding timing errors.

Referring to claim 18, the combination of Neumann/Vaglica disclose the method of claim 15, and further disclose said first wireless communications system operates in accordance with a first wireless communications protocol and said second wireless communications system operates in accordance with a second wireless communications protocol different from said first wireless communications protocol (Abstract, and paragraphs 2-6, TDMA, GSM).

3. Claims 13, 16-17, and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Vaglica et al (US Patent No. 6,125,404), and further in view of well known prior art (MPEP 2144.03).

Referring to claim 13, the combination of Neumann/Vaglica disclose the method of claim 11, and further disclose establishing including storing at least one timer value and an additional timer value pertinent to an additional timing state of said second wireless communications system in first and second registers of baseband co-processor (paragraphs 19-21, 27, 30-34, 38, 30, and 25).

The combination of Neumann/Vaglica does not disclose the second wireless communications protocol comprises WCDMA.

The examiner takes official notice of the fact that a WCDMA network well known in the art.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate the teachings of prior art by providing a WCDMA network to the method of Neumann/Vaglica, for the purpose of serving a wider network of clients.

Referring to claim 16, the combination of Neumann/Vaglica disclose the method of claim 15.

The combination of Neumann/Vaglica does not specifically disclose storing an **additional timer** value of at least one other timer pertinent to operation of the second wireless communication system in response to the timer capture interrupt; reading said

Art Unit: 2687

additional timer value, said timing relationship being based at least in part upon **additional timer value**.

The examiner takes official notice of the fact that the providing of an additional timer value is well known in the art.

It would have been obvious to one of the ordinary skill in the art at the time of invention to incorporate the teachings of prior art to the method of Neumann/Vaglica, and consequently providing storing an **additional timer** value of at least one other timer pertinent to operation of the second wireless communication system in response to the timer capture interrupt; reading said additional timer value, said timing relationship being based at least in part upon **additional timer value**, for the purpose of preventing data loss, obtaining accurate timing values, and providing efficiency.

Referring to claim 17, the combination of Neumann/Vaglica disclose the method of claim 15.

The combination of Neumann/Vaglica does not specifically disclose one or more timers are **incremented** pursuant to operation of the first wireless communication system, determining a timing relationship including comparing at least one value of the one or more timers with the timer value.

The examiner takes official notice of the fact that incrementing one or more timers pursuant to an operation is well known in the art.

It would have been obvious to one of the ordinary skill in the art at the time of invention to incorporate the teachings of prior art to the method of Neumann/Vaglica, and consequently providing one or more timers are **incremented** pursuant to operation of the first wireless communication system, determining a timing relationship including

Art Unit: 2687

comparing at least one value of the one or more timers with the timer value, for the purpose of preventing data loss, obtaining accurate timing values, and providing efficiency.

Referring to claim 19, the combination of Neumann/Vaglica disclose the method of claim 18, and further disclose said first wireless communications protocol comprises GSM (Neumann, paragraphs 19-21).

The combination of Neumann/Vaglica does not specifically the second wireless communications protocol comprises WCDMA.

The examiner takes official notice of the fact that a WCDMA network well known in the art.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to incorporate the teachings of prior art by providing a WCDMA network to the method of Neumann/Vaglica, for the purpose of serving a wider network of clients.

Allowable Subject Matter

4. Claims 3, 6, and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Schmidt US Pub. No. 2003/0067894 A1 discloses multi-mode devices in a multi network system.

Art Unit: 2687

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid, can be reached at (571) 272-7922. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER